

Title (en)
BIPOLAR LITHIUM-ION RECHARGEABLE BATTERY

Title (de)
BIPOLARE WIEDERAUFLADBARE LITHIUM-IONEN-ZELLE

Title (fr)
ACCUMULATEURS ELECTRIQUES BIPOLAIRES A IONS LITHIUM

Publication
EP 0787365 A4 19980610 (EN)

Application
EP 95936221 A 19950929

Priority
• US 9512561 W 19950929
• US 32258794 A 19941013
• US 45639195 A 19950601

Abstract (en)
[origin: WO9612314A1] A novel and improved rechargeable, lithium-ion battery system (10) is composed of a plurality of individual electrochemical cells (12a, 12b,...12n) having positive and negative electrodes (14a, 14b,...14n) (16a, 16b,...16n) disposed in opposite face-to-face arrangement with a porous separator (18a, 18b,...18n) containing electrolyte therebetween, and wherein the positive and negative electrodes of adjacent cells are disposed in contact respectively with opposite sides of a common current-collecting element (20a, 20b...20n) forming a unitary bipolar structure. The negative electrode comprises a layer of carbon (24) adhered to one side of the current-collecting element while the positive electrode comprises a layer containing a lithium transition metal oxide or sulfide compound (26) adhered to the other opposite side of the element. The unitary bipolar structures containing the positive and negative electrodes of adjacent cells include outer peripheral, electrically-insulating seal members, preferably in the form of plastic insulating rings (28a, 28b,...28n), which are joined together in a sealed stacked array.

IPC 1-7
H01M 4/02; **H01M 4/04**; **H01M 10/04**; **H01M 10/26**

IPC 8 full level
H01M 4/66 (2006.01); **H01M 10/36** (2010.01); **H01M 6/48** (2006.01)

CPC (source: EP)
H01M 10/05 (2013.01); **H01M 10/0563** (2013.01); **H01M 6/48** (2013.01); **Y02E 60/10** (2013.01); **Y02P 70/50** (2015.11)

Citation (search report)
• [A] EP 0084861 A1 19830803 - POLAROID CORP [US]
• [E] PATENT ABSTRACTS OF JAPAN vol. 096, no. 005 31 May 1996 (1996-05-31)
• See references of WO 9612314A1

Designated contracting state (EPC)
CH DE FR GB IT LI SE

DOCDB simple family (publication)
WO 9612314 A1 19960425; AU 3824695 A 19960506; CA 2202508 A1 19960425; CA 2202508 C 20040406; DE 69520221 D1 20010405; DE 69520221 T2 20010712; EP 0787365 A1 19970806; EP 0787365 A4 19980610; EP 0787365 B1 20010228; JP H10512707 A 19981202

DOCDB simple family (application)
US 9512561 W 19950929; AU 3824695 A 19950929; CA 2202508 A 19950929; DE 69520221 T 19950929; EP 95936221 A 19950929; JP 51325695 A 19950929